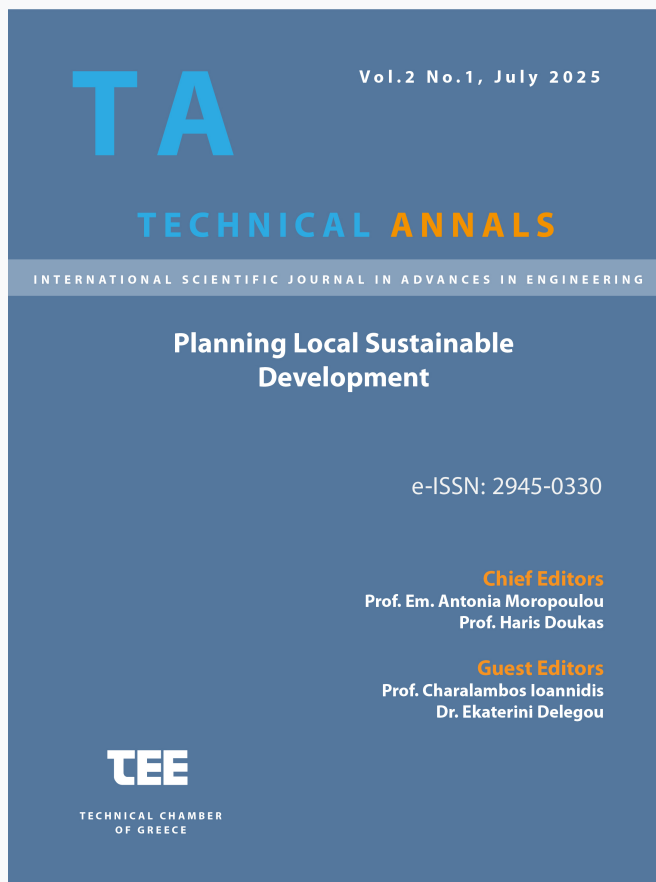


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Planned Conservation and Local Sustainable Development in Local Contexts: The Guanyingte Teahouse Project in Chengdu, China

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Abstract: In China, the conservation of low-level architectural heritage faces significant challenges, calling for sustainable methods that align with local development needs. Unlike high-grade heritage sites, which benefit from strong governmental and expert support through top-down management, low-level structures often struggle due to insufficient resources. As a case study, this paper examines the Guanyingte Teahouse in Chengdu—an early 20th-century building deeply rooted in regional tea culture—to explore practical conservation strategies. The project emphasizes authenticity while developing a sustainable model that integrates the heritage site with its surrounding community. Rather than treating conservation as a standalone initiative, the approach frames it as a long-term, evolving process. Furthermore, the study highlights the importance of conducting a multi-dimensional analysis—considering economic, social, and technological dimensions—before implementing conservation efforts, ensuring a structured and enduring conservation framework.

Keywords: Planned Conservation; Sustainability; Local development; Chinese architectural heritage; Authenticity

1 Introduction

To better conserve the architectural heritage, the Chinese government has classified the architectural heritage into different grades and issued different conservation strategies [1]. There is no doubt that architectural heritage is to be preserved and is expected to be reused. Still, in some cases, the subsequent use of the heritage is not very promising, especially for the lower grades of architectural heritage. As the higher grades of built heritage have more governmental and expert support, a top-down model can make them relatively sustainable. The question arises regarding how lower-classed built heritage can be preserved and promoted for local development [2]. This paper takes the Guanyingte Teahouse in Chengdu, China, as an example, which was built at the beginning of the 20th century and carries the local tea culture and traditional activities related to tea drinking. The conservation project of Guanyingte Teahouse takes the preservation of authenticity as the basic principle, while emphasizing the sustainable development model of co-evolutionary development of the architectural heritage and the region and

seeks to transform the architectural heritage conservation from an event into a long-term process [3]. This paper argues that multi-dimension analyses need to be done before the conservation project begins, considering the economy, community, technology, and so on, so that a multi-layered framework can be generated to ensure a sustainable future for cultural heritage.

1.1 Built heritage conservation model: from top-down to bottom-top

Official statistics indicate that China boasts an impressive 766,722 immovable heritage sites, of which 5,058 are classified as national cultural relic protection units, 21,000 are designated as provincial cultural relics protection units, and around 740,000 falls below the municipal level [4]. However, this extensive collection of heritage sites stands in contrast to the limited pool of heritage conservation researchers and staff, numbering a mere 53,000. A significant gap exists between the number of immovable heritage and the available human resources required for their preservation. The field of preventive conservation research has predominantly focused on high-level heritage units, specifically those designated as national cultural relic protection units. This represents only a small fraction (0.7%) of all immovable heritage sites in China (Fig.1).

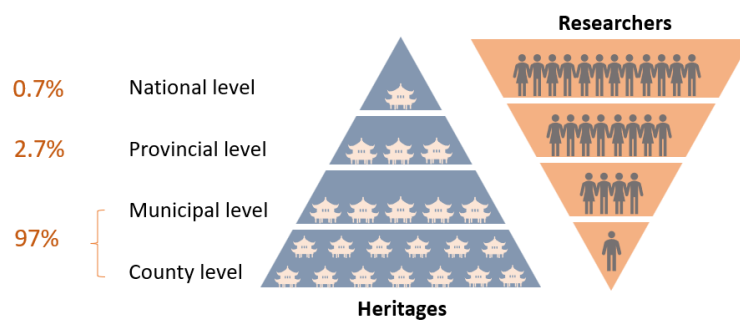


Fig. 1. The gap exists between the number of immovable heritage and the available resources

The enormity of immovable cultural heritage sites coupled with a limited pool of skilled professionals makes it challenging to rely solely on the top-down model of government initiatives for the implementation of heritage conservation in the country. Under this current situation, conserving low-level architectural heritage only by relying on government drive is difficult [5]. The many lower-level architectural heritage, which are more widely distributed and closely related to people's lives, should play a more important role. Therefore, it is necessary to change our thinking and develop a bottom-up conservation model. That is, under the premise of ensuring that the authenticity is not lost as much as possible, through good long-term plans and appropriate repair techniques, either continuing the current functions or giving new functions, letting the architectural heritage participate in economic development, and integrating heritage conservation with urban development [6]. Heritage conservation projects should allow all stakeholders (government, experts, architects, workers, residents, tourists, etc.) to gain tangible benefits from them so that they are more willing to pay attention to and

participate in heritage conservation actions, and even research architectural heritage. Investing in the sustainable development of built heritage and regional development [7].

2 Effective Long-Term Plan and Management

2.1 China's Current Architectural Heritage Conservation Framework

Relative to the development of heritage conservation in Europe, China's approach to preserving its heritage began later. At the time of the issuance of the Venice Charter, there was not yet a well-formed awareness of heritage conservation in China. The destruction of Chinese architectural heritage during the First and Second World Wars, combined with the prioritization of economic development over heritage conservation after the 1950s, meant that many cultural heritages were not well protected. As a result, when Chinese scholars began to recognize the importance of heritage conservation and started to engage in conservation efforts, they often adopted emergency preservation methods, focusing on repairing already damaged architectural heritage to ensure its survival.

With increasing governmental emphasis on the conservation of architectural heritage, the legal and standard frameworks for protecting such heritage in China have gradually improved. Experts and scholars are not only engaging in practical conservation efforts but also learning from international theories on the conservation of architectural heritage, leading to a deeper understanding of authenticity. Over the past 20 years, China's heritage conservation efforts have been shifting from emergency to preventive conservation, striving to protect architectural heritage proactively before significant damage occurs preventive conservation has also been recognized and supported by our government, which was mentioned both in the 12th and 13th Chinese national 5-year plan. In 2021, the recent 14th 5-year plan, there are more detailed requirements for the development of preventive conservation than previously [8]:

- Guidelines for the preventive conservation of immovable cultural relics need to be prepared
- Regular and standardized preventive conservation by three levels: Cultural heritage protection units, cities and counties with particularly rich cultural heritage preservation, and provincial areas
- Achieve the national key cultural relics protection units from salvage conservation to preventive conservation of the transformation
- Foster preventive conservation work institutions and support capable scientific research institutions to participate in preventive conservation

Some notable progress can be observed in China's approach to heritage conservation [9]. Firstly, Chinese researchers are developing a preventive conservation system that incorporates foreign experiences into the existing framework (Fig.2). This initiative aims to establish more proactive measures that address potential issues before they manifest as damage. Secondly, there has been effective interdisciplinary collaboration with experts in materials science, chemistry, and environmental studies. Such

cooperation enhances the understanding of the mechanisms that cause damage to heritage structures, enabling the development of strategies to mitigate risks before they lead to significant deterioration. These efforts reflect a comprehensive and forward-thinking approach to preserving cultural heritage in China [10].

At the same time, there are existing issues that need attention. The current preventive conservation framework in China overly emphasizes the role of routine maintenance, positing that by focusing on regular upkeep, the need for major repairs can be minimized, thus preserving a greater degree of authenticity. While this approach is theoretically sound, practical implementation reveals that the activities associated with routine maintenance—such as inspections, and monitoring—cannot be sustainably maintained under the current conditions of heritage conservation in China [11]. A key issue is the excessive reliance on government policies and funding, which means that many architectural heritage sites cannot sustainably develop on their initiative [12].

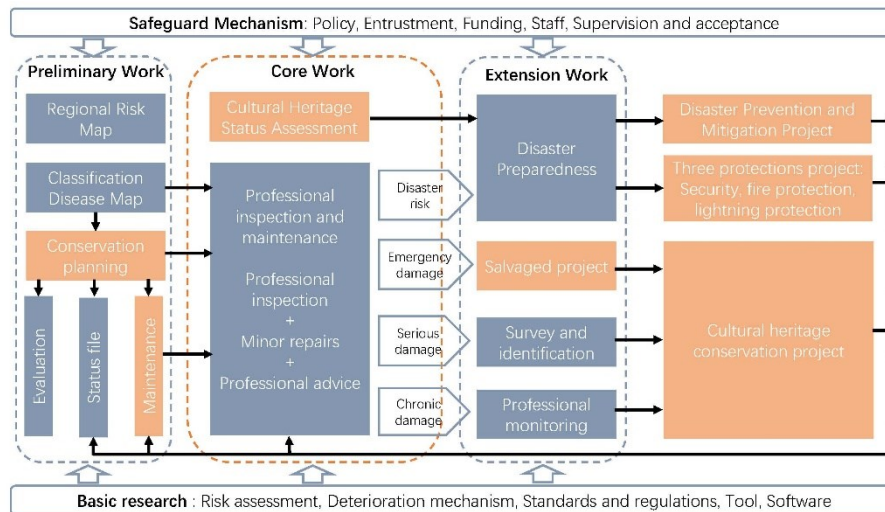


Fig. 2. China's Heritage Conservation System Integrating Salvaged and Preventive Strategies

As previously mentioned, the disparity between the vast number of heritage buildings and the number of professionals available means that most architectural heritage sites are not able to receive comprehensive maintenance. There is a lack of professional guidance and a shortage of financial support. While government policies and financial backing, along with technical support from universities, have enabled satisfactory preventive conservation efforts centered on routine maintenance in some projects like the Forbidden City in Beijing [13] and the Mogao Grottoes in Dunhuang [14], applying these successful experiences to other heritage sites poses a significant challenge. How to transfer these practices effectively to other heritage contexts without the same level of support and infrastructure remains a difficult problem to pay attention to.

2.2 The ability of built heritage as a driving force for regional sustainable development

From July 2013 to June 2015, the collaborative project "Cultural Heritage Counts for Europe" (CHCFE), supported by the EU Cultural Programme, investigated the multifaceted impacts of heritage on Europe's economy, society, culture, and environment [15]. The project proposed that culture should be recognized as the fourth pillar of sustainable development. It emphasized that architectural heritage should be leveraged as a dynamic force capable of driving regional sustainable development [16].

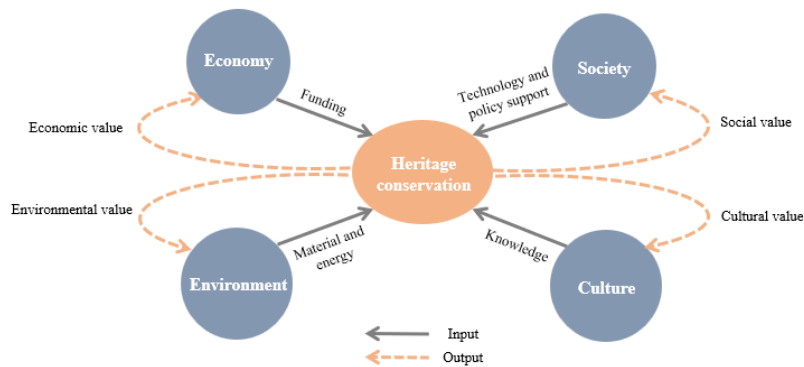


Fig. 3. Four pillars of sustainability in heritage conservation

2.3 A planned conservation framework adapted to the Chinese context

Heritage conservation should not be viewed as an isolated event, but rather as an ongoing process that encompasses investigation, prevention, maintenance, and repair. Simply shifting the focus from one phase of this process (such as from repair to maintenance) is insufficient to address the core issues [17]. Instead, there should be a shift in perspective from focusing on individual stages to rethinking the entire process—from an event-based approach to a process-oriented one [18].

This comprehensive process should not be confined to the involvement of experts in the field of architectural heritage alone. Instead, the conservation of cultural heritage requires the involvement of multiple actors from across the public, private, and non-government sectors, not only to initiate and carry out conservation but also to sustain the heritage place after the intervention [19]. Conservation of the historic urban environment in particular poses specific and urgent challenges that require a multidisciplinary approach, in which conservation actions are embedded within economic, social, and environmental development strategies. Increasingly, the private and the nongovernment sectors are playing pivotal roles in these processes.

Ultimately, redefining heritage conservation as a holistic and inclusive process helps to ensure that it becomes a sustainable and integral part of societal development, rather than a series of reactive measures. This approach not only preserves the physical

structures but also maintains their historical significance and the cultural continuity they embody [20].

In summary, it should be a double-cycle framework. The external cycle of heritage conservation centers on achieving sustainable development of cultural heritage in conjunction with local communities. It encourages social participation and requires economic benefit analyses, while also developing information management tools to approach heritage conservation from a long-term perspective that encompasses economic, social, environmental, and cultural planning. The internal cycle focuses on preserving the authenticity of architectural heritage. It utilizes new technologies for data collection on the heritage itself, detecting structural issues, and implementing appropriate maintenance interventions, people engagement, and long-term monitoring. By aligning these two cycles, the strategy not only protects physical structures but also promotes a holistic view of heritage conservation that actively involves and benefits the community, thereby fostering a culture of preservation that is sustainable and dynamic [21].

3 Case study of planned conservation and sustainable development in China: Guanying Teahouse

The Guanying project is currently in its initial stages and serves as an exploratory attempt to implement planned conservation in China and seeks to demonstrate how cultural heritage can play a crucial role in driving sustainable local development [22].

3.1 The history and background of teahouse

The Guanying Teahouse is located near the First Bridge of Pengzhen in Shuangliu District, Chengdu, Sichuan Province, a strategic point where water and land routes converge (Fig.5). Originally constructed in the 17th century, it was built as a public facility through local donations for water stopping, praying for blessings, and stabilizing the bridge. The building has undergone several reconstructions following its destruction by fire, it was rebuilt as a tea shop and later served as a meeting venue in 1916. Despite changes in its architectural structure, the embedded town teahouse customs and the spirit of the community public space have been preserved, making it a living heritage representative of the teahouse-centered town folklore in Western Sichuan. In 2016, the Guanying Teahouse was recognized as the fifth batch of historical buildings in Chengdu and the first in Shuangliu County. In 2020, the Shuangliu District Cultural Relics Conservation Management Office designated it as a "general immovable cultural relic."

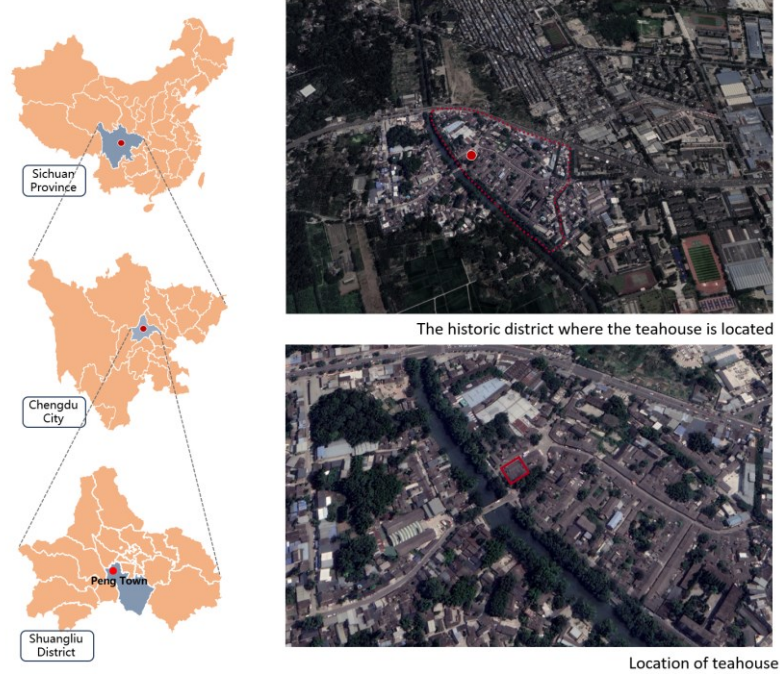


Fig. 4. The location of Guanyingte Teahouse

3.2 The Features and Value of teahouses

The Teahouse currently features a courtyard-style layout, with a total built area of approximately 324 square meters. The courtyard includes a north-south oriented roof and beam frame over the central patio. The southern section of the teahouse features a three-column wide façade with a one-column depth, supported by a triangular truss structure with brick pillars and walls. The central eastern wing comprises three sections and five frames, while the western wing has two sections and five frames. The inner patio contains three sections with six frames, all utilizing a lifted beam structure with asymmetrical beams in the east and west wings (Fig.6). This structural diversity exemplifies traditional Chinese architectural techniques and reflects the teahouse's historical adaptations to accommodate its various functions over the centuries.

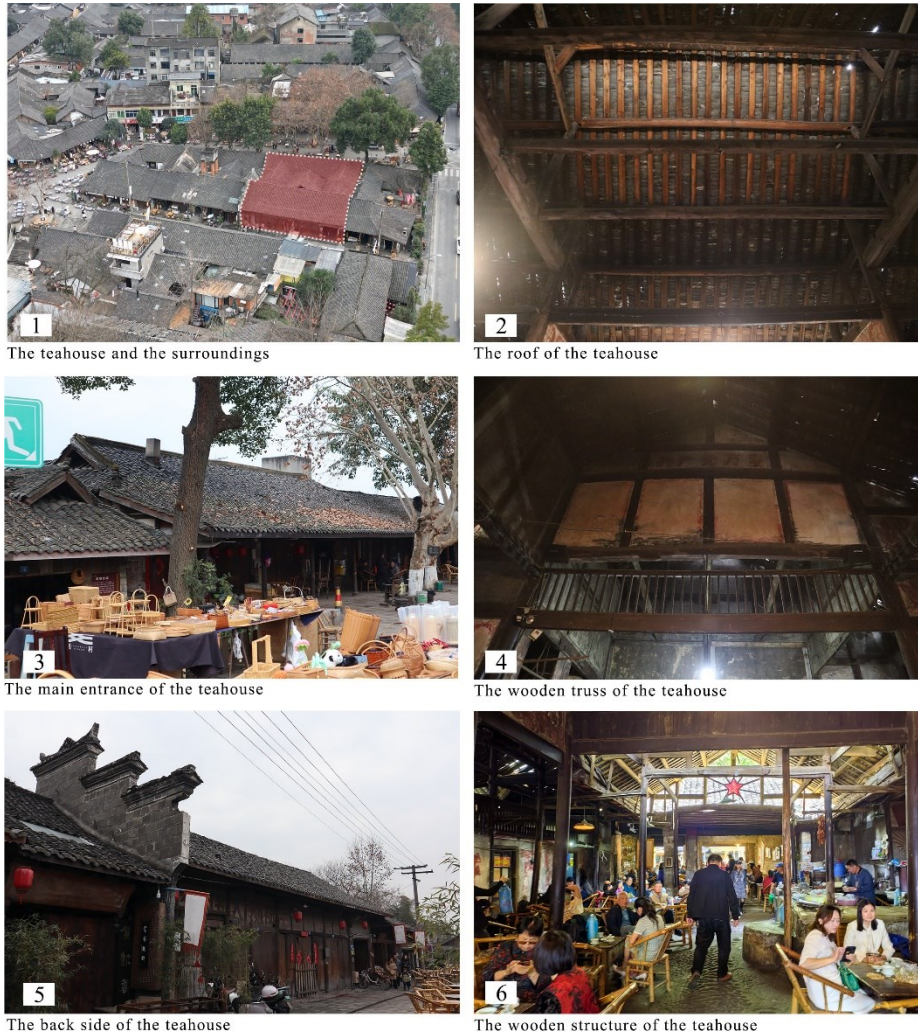


Fig. 6. The status of Guanying Teahouse before intervention

Over the past two centuries, the Guanying Teahouse located at a key crossroads in Shuangliu District, Chengdu, Sichuan Province, has accumulated rich historical value and cultural significance. Its influence extends beyond Pengzhen to Western Sichuan and even internationally. Here are some specific aspects of its impact:

Historical Value: The Pengzhen Teahouse preserves relics from various historical periods dating back to the Qing Dynasty (1644-1911), embodying the characteristics of the Western Sichuan Plain's commercial towns influenced by its role as a water and land transport hub since the Ming Dynasty (1368-1644). Notably, it has maintained the teahouse culture since the Republican era, serving as a quintessential example of a popular Sichuan teahouse from that period. Moreover, the teahouse has witnessed the

transformation from a temple dedicated to Guanyin to a public teahouse, marking a significant shift from religious to public communal architecture.

Cultural Value: The primary cultural significance of the Teahouse reflects the evolution of public life in Chengdu's unique residential pattern, from private dwellings to small stores to market streets and finally to urban multilayer structures. It retains the atmosphere and environment of a traditional Sichuan teahouse from the Republican era, making it a living heritage site that preserves the daily life of Western Sichuan teahouses amid the gradual disappearance of teahouse culture in the Chengdu area. It stands as a concrete manifestation of Western Sichuan's teahouse culture and is a valuable historical resource for studying Chengdu's urban microhistory and the social life of the Republican period.

Social Value: The Teahouse acts as a social binder, turning local tea patrons into a primary community. The unique atmosphere of the teahouse and the gathering of regular patrons attract younger demographics including photographers and social media influencers. The influx of visitors brings business opportunities, revitalizing the surrounding commercial area. Today, the teahouse serves as a vital platform for disseminating knowledge and perpetuating Chengdu's tea culture, drawing locals, photographers, students, and a large number of tourists, thereby achieving significant social benefits.

Artistic Value: The Teahouse is one of the few in Sichuan that still preserves and uses a traditional stove, a relic from times of material shortage. The embrace hall with its east-west sloping roof creates dramatic light and shadow effects through upper-level lighting, showcasing unique aesthetic architectural forms. It has attracted numerous photographers, becoming a site for artistic creation, and the preserved "thousand-foot mud" special floor morphology has solidified traces of community interactions over the years, showcasing a snapshot of daily activities within the teahouse.

Use Value: The teahouse continues to serve as a functional space, maintaining its original purpose as a hub for tea culture while adapting to contemporary needs. It is a vibrant location where residents gather daily for leisure, discussions, and socialization, ensuring the preservation of traditional teahouse culture in a practical, living context. For tourists, the teahouse offers an immersive experience of Chengdu's historical tea culture, reinforcing its role as a cultural landmark within the historical district. The combination of traditional and modern uses provides ongoing economic benefits, bolsters community engagement, and secures the teahouse's place as a dynamic heritage site.

3.3 The objectives of the teahouses project

This project is grounded in scientific research and systematic assessment, adhering to the principles of minimal intervention and authenticity. It employs the least invasive measures aimed at effectively addressing the structural issues and inappropriate alterations of the Guanying Teahouse. In the conservation efforts, there is a strong commitment to preserving the original materials and construction techniques as much as possible. The project also seeks to uncover and fully elucidate the diverse values and folk customs embodied by the Guanying Teahouse. It aims to protect and perpetuate the historical culture of Pengzhen and the local tea culture, to better meet the growing

interest from the surrounding community and visitors from both home and abroad. Additionally, the project addresses the conflicts that arise from business operations impacting the conservation of cultural relics, positioning the teahouse as a link between the historical and modern aspects of Chengdu's tea culture. This initiative is set to become a significant source of cultural vitality for Shuangliu and even Chengdu.

3.4 Project implementation stages and content

In November 2021, the project was initiated with Tianjin University and Southwest Jiaotong University jointly commissioned by the Shuangliu District Bureau of Culture, Sports, and Tourism to conduct investigative research. By June 2022, the survey and research were completed. Subsequently, in October 2022, the "Plan for Pengzhen Guanying Teahouse" was formulated. The plan was finalized in December 2022, and from January to April 2023, the renovation was funded and completed by the manager of Yuanxiang Bookstore.

- Stage 1: Preliminary research and feasibility analysis

Through on-site inspections, historical document reviews, and methods such as point cloud 3D scanning, a comprehensive record of the architectural structure of the teahouse was compiled. Techniques like termite detection were used for analysis of structural integrity and disease issues. Additionally, detailed surveys were conducted on the climate and environmental conditions, economic development, business operations of the teahouse, and its management systems.

During the investigation phase, the focus was not only on gathering material historical information but also on exploring the intangible aspects of spirit and culture associated with the teahouse. Specifically, survey questionnaires were designed for regular patrons, with studies conducted on 89 individuals deeply connected to the teahouse, and in-depth interviews were carried out with several of these patrons still active. This was done to understand their needs and to use this information as a basis for different conservation stages, including exhibition utilization and management supervision.

- Stage 2: Make a long-term plan

In November 2022, the "Plan for the Conservation and Utilization of Guanying Teahouse" was drafted and is currently under review. The Plan for the Conservation and Utilization of Guanying Teahouse aims to enhance the heritage of the entire historical district, including the Guanying Teahouse, innovatively and sustainably. By concentrating resources, the plan ensures on one hand the full expression of the cultural characteristics of Guanying Teahouse and the entire historical district. On the other hand, it promotes the launch of a series of vibrant activities centered on social, environmental, educational, and tea-cultural themes throughout the entire historical district and even the whole town.

The plan includes several key components: the Technical Handbook, which serves as a tool for analyzing the building's structure and its state of preservation; the Conservation Programme, which outlines the conservation activities scheduled to be carried out following Chinese cultural heritage conservation laws (encompassing prevention,

maintenance, and significant interventions), and details the methods, timing, and responsible parties for these activities; and the economic budget and user handbook, providing guidelines for non-technical users such as cleaning staff, caretakers, and visitors.

- Stage 3: Initial intervention

To effectively address the current issues of artifact degradation and environmental safety hazards at Guanyinge Teahouse, this project employs archaeological survey methods and targeted refurbishment, strictly adhering to principles of minimal intervention and authenticity. Here are the specific measures implemented (Table 1):

- Drainage System Maintenance and Optimization: The drainage system, including roof tiles and the transition from roof gutter to eaves gutter, is cleaned and reinforced to ensure consistency in technique, form, and materials while continuing local traditional construction practices
- Refurbishment of the East-Side Room Ceiling: Currently used as a bedroom for teahouse staff, this room has long suffered from leaks. The refurbishment uses local materials and construction methods to preserve the original appearance of the interior space and avoid conflicts between new materials and traditional techniques
- Repair of the North Facade and Indoor Bamboo Woven Walls: Repairs are made to the damaged bamboo woven walls without the use of plaster to mask imperfections, distinguishing them from pseudo-historical murals while maintaining harmony with the surrounding environment
- Overall Electrical Maintenance: Given that the teahouse has twice been destroyed by fire, replacing and organizing old electrical circuits is crucial to reduce fire risk and other safety hazards. Choices in color and installation locations ensure coordination with the teahouse's interior colors and ambiance, minimizing damage to the architectural structure
- Outside Wall Repairs: Local reclaimed blue bricks are used, and repaired using traditional masonry techniques to avoid the use of painted red bricks that mimic antiquity, ensuring the authenticity of materials and craftsmanship

Through these measures, the project aims to protect and enhance the structural integrity of Guanyinge Teahouse, while respecting its historical and cultural values, laying a solid foundation for its sustainable use in the future.

Table 1. The initial intervention of Guanying Teahouse

Intervention	Before intervention	After intervention
Drainage System Maintenance and Optimization		
Refurbishment of the East-Side Room Ceiling		
Repair of the North Facade and Indoor Walls		
Outside Wall Repairs		
Overall Electrical Maintenance		

4 Discussion

4.1 Authenticity

The ongoing debate on the authenticity of material and non-material elements persists due to varying cultural perspectives on architectural heritage [23]. Attempting to categorize and prioritize different aspects as more important is ideological and theoretical. In practical projects, the complexity increases with the involvement of numerous aspects. Therefore, transcending disagreements about authenticity and transmitting more original information to the next generation requires a multidimensional consideration and approach, even acknowledging that the current state of authenticity in some heritages may be imperfect [24].

Moving beyond debates on the supremacy of material or non-material authenticity, a practical perspective suggests establishing a shared foundation. Both Eastern and Western architectural heritage conservation theories can mutually learn and contribute to each other's development based on the consensus that multidimensional authenticity should be preserved [25].

In the conservation process of the Guanyingte Teahouse, the principle of authenticity was carefully upheld through the respectful use of traditional materials, techniques, and spatial logic that reflect the cultural and environmental context of western Sichuan. For instance, wall repairs employed a traditional method using bamboo strips as structural framework and a mixture of rice paddy mud and straw as infill. These locally sourced materials—deeply rooted in Sichuan's vernacular architecture—help maintain the building's material authenticity and connection to its cultural landscape.

Other components of the building were similarly treated: old bricks were used to restore firewalls, with gaps filled using bamboo strips and a traditional mortar mix (sand, cement, and pigment); damaged door panels were repaired with native Chinese fir wood; traditional small grey tiles and fir timber were used to restore the roof.

Crucially, the project extended the understanding of authenticity beyond the physical fabric of the building to include intangible cultural dimensions. The spirit of place, the spatial atmosphere, and the traditional tea culture that permeates daily life in the teahouse were seen as integral to its heritage value. Recognizing that the Guanyingte Teahouse is not merely a historic structure but a living social space that carries the essence of Sichuan's tea customs, the project aimed to preserve the authentic experience of the site as well.

The repair process in 2023 was carried out with strong community collaboration, and areas not under construction remained in operation. This allowed the teahouse to continue functioning as a public cultural space during restoration, sustaining its everyday rhythms and reinforcing the authenticity of lived experience. By safeguarding both the material characteristics and the socio-cultural life of the teahouse, the project emphasized a holistic, multilayered interpretation of authenticity—one that values tangible fabric, traditional knowledge, and the continuity of communal practices as interconnected aspects of heritage conservation.

4.2 Community involvement

Given that the Guanying Teahouse project is not classified as a high-level heritage conservation initiative, securing ample government funding and consistent management support can be particularly challenging. In such circumstances, encouraging community involvement becomes crucial. Community engagement not only helps mobilize necessary resources but also enhances the project's relevance and sustainability by aligning it with local interests, values, and needs [28]. Participation may take various forms—from volunteering and local fundraising to active involvement in decision-making processes—ensuring that conservation efforts are firmly rooted in the community's cultural and historical identity [29].

This project represents a tenant-initiated conservation and intervention effort driven by the needs of the community and regular patrons of the teahouse. The initial proposal for architectural conservation was put forward by the building's tenant, Mr. Li Qiang. The project was then organized and coordinated by local property owners and management authorities, while a technical team formed by universities in Tianjin and Chengdu provided professional support through survey and conservation planning.

A key strength of the Guanying Teahouse project lies in the building's dual identity: it is not only a historical structure with tourist appeal and regional cultural value but also a vital public space embedded in the everyday lives of local residents. To fully understand the building's role and the perspectives of its stakeholders, the project team conducted extensive community engagement activities, including interviews and surveys with residents, local business owners, and visiting patrons. These efforts not only helped gather valuable information but also ensured the conservation plan reflected public needs and community concerns.

In terms of funding, the project also exemplifies how community engagement translates into concrete support. Beyond a self-raised research fund of 20,000 yuan from academic institutions such as Tianjin University and Southwest Jiaotong University, and a 10,000-yuan survey and design contribution from Chengdu Damu Ancient Architecture and Garden Design Co., Ltd., the main renovation cost—totaling 20,000 yuan—was funded by Yuanxiang Bookstore, located on Pengzhen Old Street. The bookstore's owner expressed a strong personal and economic connection to the teahouse. His renovated bookstore was inspired by the architectural style of the teahouse, and he recognized the economic spillover benefits generated by its continued operation. Motivated by both financial interest and a sense of cultural responsibility, he proactively offered to contribute to the conservation effort once he learned about the repair initiative.

This collaborative model illustrates how grassroots engagement, combined with academic and private sector support, can effectively drive the conservation of culturally significant yet less formally protected heritage assets.

The Guanying Teahouse is a low-level built heritage in China's law but a special carrier of traditional Tea-drinking customs and spirit of community public spaces in western Sichuan. Faced with challenges such as insufficient funding, limited resources, and constrained management capabilities, along with the difficulty of obtaining government support for such low-level architectural heritage, the teahouse project has tried

to shift from a top-down to a bottom-up approach. This transformation involves engaging local stakeholders more directly in the planning and implementation processes, ensuring that the conservation efforts are more community-driven and responsive to the actual needs and capabilities of the local population [26].

This bottom-up approach facilitates greater community involvement, enabling residents and local entrepreneurs to take an active role in preserving their cultural heritage. This method not only fosters a sense of ownership and pride within the community but also encourages innovative, locally sourced solutions to conservation challenges. By empowering the community, the project aims to create a sustainable model for heritage conservation that is less dependent on external funding and more reliant on local initiative and creativity [27]. This model hopes to serve as an example for other heritage projects facing similar challenges in resource-constrained environments.

4.3 Interpretation and Promotion

To fully showcase the cultural values of Guanyingte Teahouse, this project explores leveraging community and societal forces as well as new media to expand the channels and methods of interpretation. Upon completion of the restoration, a special exhibition titled "Century of the Teahouse" was set up during the May Day holiday in 2024 (Fig.7). The exhibition will feature a long scroll depicting the historical evolution of the Guanyingte, a 3D printed model of the teahouse building that can be disassembled by period, simplified and visualized results of the drainage system study, and related cultural and creative products. Utilizing multimedia video playback, model displays, and guided tours, the exhibition aims to present the historical functions and cultural values of Guanyingte Teahouse. During the exhibition, focused activities will be organized, drawing large numbers of community residents and visitors to view the exhibit and offer suggestions for conservation and utilization, with extensive media coverage. Subsequently, some exhibition materials will be moved to the Guanyingte Teahouse for sustainable display with interpretive signage.



Fig. 7. Part of the exhibition "Century of the Teahouse"

To enhance and perfect the comprehensiveness and sustainability of this project, institutions such as Tianjin University and Southwest Jiaotong University are involved throughout to document the process comprehensively. A special operations team is arranged to regularly collect various types of information during the construction progress, gathering data from multiple perspectives to build an innovative system of resources. This provides detailed materials for the interpretation of this project and serves as a reference for similar conservation projects.

4.4 Economic and Social Effects on Local Development

The initial interventions are small but effective, which produce positive spillover effects on local development. On the one hand, after the intervention of Guanying Teahouse, the overall spatial and environmental quality of the teahouse has significantly enhanced. This improvement not only makes the space more comfortable and appealing for daily use but also preserves the cultural essence and historical ambiance, ensuring that the teahouse remains a cherished landmark for both the local community and visitors. On the other hand, the project serves as an exemplary case in the conservation and sustainable use of historical buildings, providing a paradigm for the conservation and transformation of old houses in the Western Sichuan region. It has catalyzed subsequent similar conservation and renewal projects in this historical district, using the Guanying Teahouse as a reference standard that emphasizes the preservation of historical elements and ambiance. Inspired by this project, a formerly abandoned blacksmith shop in the district has been restored and repurposed. Now revived as the "Yongfeng Teahouse" its overall renovation model drew inspiration from the

Guanyinge Teahouse, retaining the site's historical charm and features while incorporating local tea customs and culture into the refurbishment and updates. This approach not only preserves the architectural and cultural heritage but also revitalizes community spaces, making them relevant and functional for contemporary use while maintaining their historical integrity [28].

What's more, many people get jobs in this conservation project, both in this specific project and the subsequent activities. For example, on Guanyinge Teahouse project the local people who mastered the traditional craftsmanship to repair the roof and walls got work, they can work on other projects inspired by the Guanyinge Teahouse project carried out in this area as well. With the development of China's tourism industry in the post-epidemic era, the Teahouse has revitalized the fading historical district. Its unique historical and spatial ambiance has attracted numerous visitors from both domestic and international locales, injecting new vitality into the old street community. This revitalization has encouraged young entrepreneurs to return and has increased the number of migrant workers, leading to the establishment of dining venues, tea shops, bookstores, and pottery studios, thereby driving improvements in the community's infrastructure.

Furthermore, the Guanyinge Teahouse project has provided some opportunities for local craftsmen skilled in traditional techniques, allowing them to contribute to the meticulous restoration of the roof and walls. This experience has the potential to inspire further work on similar projects in the area. As China's tourism industry continues to recover and evolve in the post-epidemic era, teahouse's distinctive blend of historical significance and unique spatial ambiance has gradually attracted a growing number of visitors, both domestic and international. This influx has begun to breathe new life into the old street community.

These new cultural enterprises have also prompted the community to offer related activities and participatory courses for local schools and residents. On weekends, the old street's market becomes a bustling hub where local residents can set up stalls, providing them an opportunity to supplement their regular income. This integration of cultural industries not only preserves the historical significance of the area but also enhances its economic sustainability, making the community a vibrant place for both residents and visitors alike [29].

5 Conclusion

The Guanyinge Teahouse, though classified as a low-level heritage site under China's legal framework, plays an important role in preserving traditional tea culture and public life in western Sichuan. Faced with challenges such as limited funding, resources, and administrative support, the project adopted a bottom-up approach that actively involves local stakeholders in the planning and conservation process. This shift not only strengthens community participation and ownership but also fosters creative, locally driven solutions to heritage conservation.

In addition to the shift from a top-down to a bottom-up approach, the upstream perspective also deserves attention. This perspective represents a comprehensive view that

emphasizes the importance of planning and engaging in dialogues with all stakeholders before the launch of a heritage conservation project. This stage involves discussing and planning for the sustainable development aspects—economic, social, environmental, and cultural—of the project, aiming to fully tap into the potential of cultural heritage. Such an approach facilitates diversification of funding sources and enhances the long-term sustainability of the project.

Planned conservation underscores that the conservation of heritage should be an ongoing process rather than an event. It encompasses a range of activities from prevention and maintenance to repair and reuse, all of which require thorough research and appropriate interventions. Faced with the complexities of intervention and management tasks, only through multi-faceted and detailed planning at the early stages of a project can consistency in subsequent interventions be ensured.

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